

REMARKS

Applicant wishes to thank the Examiner for the detailed remarks, allowance of claim 27 and allowability of claims 21-26. Allowable claims 21-26 have only been amended to place each claim in independent form. Accordingly, claims 1, 3, 4, 5, 7-14, 18-21 are pending.

Claims 22-24 were rejected under 35 U.S.C. §112. “A multiple of pins” follows the same format as a “a multiple of vortex plows” or a “a multiple of vortex ramps” Applicant respectfully submits that the claims are in proper condition according to §112.

Claims 1, 5, 7, 9, 11, 13-14, 20 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by *Lippisch* (2,743,888). Applicant respectfully traverses this rejection. The Examiner suggests that “to generate small-scale vortices that are ingested and at least partially entrained within a forming core of the primary tip vortex” is only a functional difference. However, Applicant specifically recites a plurality of vorticity generating protuberances defined upon a distal end of a tip defined between an upper and lower aerodynamic surface. *Protuberance* is defined as: Something, such as a bulge, knob, or swelling, that protrudes. [Dictionary.com] *Lippisch* discloses *winglets* – which are airfoils – not protuberances. The *Lippisch* winglets generate a “thin sheet of wing vortices rather than a larger spiral vortex as is produced in Figure 4. [Col 2, lines 19-22]. *Lippisch* discloses *structure* different than *the structure* recited in the claims and that different structure (the winglets) generates a “thin sheet of wing vortices” which are not ingested and at least partially entrained within a forming core of the primary tip vortex as recited in the Claims. The *Lippisch* winglets are structurally different as can be determined by the airflow results from the *Lippisch* winglets. In other words, the function of the *Lippisch* winglets discloses the structural differences between *Lippisch* and Applicant’s claims. The claims are properly allowable.

Claims 3, 4, 8, 10, 12, 18 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Lippisch* (2,743,888) in view of *Wake* (5,785,282). Applicant respectfully traverses these rejections for at least the reason disclosed above. In addition, even if the combination were properly made, there are differences between the claimed invention and the teachings of the cited references so that the combination does not meet the limitations of Applicant’s claims.

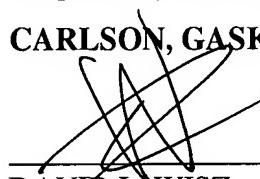
The Examiner admits that *Lippisch* fails to disclose vorticity generating proturbances which extend from the tip of a helicopter blade. *Wake* locates the vortex generators 10 on upper and lower aerodynamic surfaces not upon a distal end of a tip defined between an upper and lower aerodynamic surface as recited in the claims. Furthermore, like *Lippisch*, *Wake* attacks the primary tip vortex from outside. As far as the combination is valid, *Wake* teaches moving the *Lippisch* winglets to the upper and lower aerodynamic surfaces if they are to be used on a rotor blade. The claims are properly allowable.

A check in the amount of \$1,200 is enclosed for six additional independent claims. Should any additional fees or extensions be required, the Commissioner is authorized to charge Deposit Account No. 50-1482, in the name of Carlson, Gaskey & Olds, P.C.

Applicant respectfully submits that this case is in condition for allowance. If the Examiner believes that a teleconference will facilitate moving this case forward to being issued, Applicant's representative can be contacted at the number indicated below.

Respectfully Submitted,

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